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EXAMINER	
GRANT, ROBERT J	

ART UNIT	PAPER NUMBER
2838	

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/757,220	FIELD ET AL.	
	Examiner	Art Unit	
	Robert Grant	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 January 2004* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 12-15, 29-33, and 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joko et al. (US 5,939,861) in view of Adams (US 4,435,675).

As to claim 1, Joko discloses a method of modeling energy transfer by way of an energy transfer profile for an application environment utilizing a battery as an energy source, said method comprising the steps of: receiving sensor data for the application environment, said sensor data being related to energy consumption (figure 1, element 6); receiving one or more charge parameters for the battery (Column 18, lines 52-59); determining the energy transfer profile for the energy consumer based upon said sensor data, said step including determining one or more energy needs for the application environment and applying a charge return model based upon said charge parameters (column 12, lines 53-58); and making available the energy transfer profile (figures 3a and 3b). Joko does not expressly disclose wherein said charge parameters include a charge schedule. Adams teaches a charge schedule for charging a battery (Column 2, lines 49-66). It would have been obvious to a person having ordinary skill in the art at the time of this invention to combine Adams's battery

charging system with a charge schedule and Joko's battery control system in order to be able to maximize the charge provided to the battery for a given period of time (Adams, Column 1, lines 44-53).

As to claim 2, which is dependent upon claim 1, Joko further including the step of receiving one or more application environment parameters for said step of determining the energy transfer profile (column 14, lines 31-37).

As to claim 3, which is dependent upon claim 1, Joko further discloses wherein said step of determining the energy needs of the application environment includes obtaining a discharge value for the battery from said sensor data (Column 14, lines 5-13).

As to claim 4, which is dependent upon claim 2, Joko futher discloses wherein said step of determining the energy transfer profile includes incrementally calculating battery parameters and a battery state of charge over time based upon said energy needs and said charge return model (Figures 3a and 3b).

As to Claim 5, Joko in view of Adams discloses all the limitations of the claim 4, and further discloses calculating battery state of charge over time includes incrementally calculating charge returned to the battery (Figures 3a and 3b).

As to claim 12, which is dependent upon claim 1, Joko futher discloses wherein said sensor data includes voltage and current measurements taken over time for the battery (Column 14, lines 8-13).

As to claim 13, which is dependent upon claim 12, Joko further including the step of recording said sensor data with a data recording unit coupled to the battery while operating in the application environment (figure 13, element 7a).

As to claim 14, which is dependent upon claim 13, Joko futher discloses wherein said recorded sensor data includes temperature measurements (Column 6, lines 24-32).

As to claim 15, which is dependent upon claim 14, Joko further dicloses wherein said recorded sensor data includes discharge measurements taken over a time interval (Column 22, lines 42-47).

As to Claim 29, Joko discloses a system for modeling energy transfer using an energy transfer profile for an application environment utilizing a battery as an energy source, said system comprising: means for receiving sensor data for the application environment(Figure 18, element 30), said sensor data being related to energy consumption (element 10); means for receiving one or more charge parameters for the battery (element 26); means for determining the energy transfer profile for the energy consumer based upon said sensor data (Column 13, lines 21-23), said energy profile

determining means including means for determining one or more energy needs for the application environment (Column 14, lines 23-37) and means for applying a charge return model based upon said charge parameters (Element 7); and means for outputting the energy transfer profile (Element 26). Joko does not expressly disclose wherein said charge parameters include a charge schedule. Adams teaches a charge schedule for charging a battery (Column 2, lines 49-66). It would have been obvious to a person having ordinary skill in the art at the time of this invention to combine Adams's battery charging system with a charge schedule and Joko's battery control system in order to be able to maximize the charge provided to the battery for a given period of time (Adams, Column 1, lines 44-53).

As to claim 30, which is dependent upon claim 29, Joko further including means for receiving one or more application environment parameters, and said energy profile determining means being responsive to said application environment parameters (column 14, lines 31-37).

As to claim 31, which is dependent upon claim 29, Joko further discloses wherein said means for determining the energy needs of the application environment includes means for obtaining a discharge value for the battery from said sensor data (Column 14, lines 5-13).

As to claim 32, which is dependent upon claim 30, Joko further discloses wherein said energy profile determining means includes means for incrementally calculating battery parameters and a battery state of charge over time based upon said energy needs and said charge return model (figures 3a and 3b).

As to Claim 33, Joko in view of Adams discloses all the limitations of the claim 32, and further discloses calculating battery state of charge over time includes incrementally calculating charge returned to the battery (Figures 3a and 3b) based upon Adams charge return model.

As to claim 36, which is dependent upon claim 29, Joko further discloses wherein said sensor data includes voltage and current measurements taken over time for the battery (Column 14, lines 8-13).

As to claim 37, which is dependent upon claim 36, Joko further including means coupled to the battery for recording said sensor data with the battery operating in the application environment (Figure 18, element 30).

As to claim 38, which is dependent upon claim 37, Joko further discloses wherein said recorded sensor data includes temperature measurements (Column 14, lines 8-13).

As to claim 39, which is dependent upon claim 38, Joko further discloses wherein said recorded sensor data includes discharge measurements taken over a time interval (column 14, lines 8-13).

1. Claims 16-23 and 40-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Pavolic et al. (US 6,965,216).

As to Claim 16 Joko discloses A method for generating an energy transfer profile for modeling energy transfer in a vehicle utilizing a battery as an energy source, said method comprising the steps of: receiving recorded sensor data for the vehicle relating to energy consumption over time (column 12, lines 53-58); receiving a plurality of parameters including one or more charge parameters through a user interface (figure 15, element 26); generating the energy transfer profile for the vehicle based upon said recorded sensor data and said parameters (Figure 3a and 3b); determining an energy requirement for the vehicle and applying a charge return model based upon said charge parameters (Column 12, lines 53-58); and outputting the energy transfer profile (Figure 15, elements 26) (The charge display is an indication of the results of the charging and discharging of the battery). Joko does not expressly disclose wherein said charge parameters include a charge schedule or are enter through a user interface. Pavolvic teaches a charging process configured by parameters entered through a user interface (Column 4, lines 60-62). Adams teaches a charge schedule for charging a battery (Column 2, lines 49-66). It would have been obvious to a person having ordinary skill in

the art at the time of this invention to combine Pavolic's user entered charging parameters with Adams's battery charging system with a charge schedule and Joko's battery control system in order to be able to allow the user to enter parameters so as to maximize the charge provided to the battery for a given period of time (Adams, Column 1, lines 44-53).

As to claim 17, which is dependent upon claim 16, Joko discloses wherein said step of determining the energy requirement for the vehicle comprises obtaining a discharge value for the battery from said recorded sensor data (Column 14, lines 5-13).

As to claim 18, which is dependent upon claim 17, Joko discloses wherein said step of generating the energy transfer profile comprises incrementally calculating battery parameters and calculating a battery state of charge based on said energy requirement and said charge return model (Figures 3a and 3b).

As to Claim 19 Joko in view of Adams disclose all the limitations of the claim 18, in which this claim is dependent upon. Joko discloses calculating battery state of charge over time, and calculating charge returned to the battery (Figures 3a and 3b) and Adams teaches a charge schedule for charging a battery (Column 2, lines 49-66).

As to claim 20, Joko dicloses A system for generating an energy transfer profile for modeling energy transfer for an application having a battery, said system

comprising: memory for storing sensor data corresponding to energy consumption of the application (figure 18, element 7a); a user interface for receiving application parameters and one or more charge parameters (element 26); an energy transfer module having an input port for receiving said sensor data and said application parameters (element 30), said energy transfer module including a component responsive to said sensor data (column 13, lines 21-23) and said application parameters for generating the energy transfer profile for the application (Column 14, lines 23-37), and a component for applying a charge return model based on said charge parameters (element 7); and a component for outputting the energy transfer profile (element 26). Joko does not expressly disclose wherein said charge parameters include a charge schedule or are enter through a user interface. Pavolvic teaches a charging process configured by parameters entered through a user interface (Column 4, lines 60-62). Adams teaches a charge schedule for charging a battery (Column 2, lines 49-66). It would have been obvious to a person having ordinary skill in the art at the time of this invention to combine Pavolic's user entered charging parameters with Adams's battery charging system with a charge schedule and Joko's battery control system in order to be able to allow the user to enter parameters so as to maximize the charge provided to the battery for a given period of time (Adams, Column 1, lines 44-53).

As to claim 21, which is dependent upon claim 20, Joko further including a component for determining an energy requirement, said component being responsive to a

discharge rate for the battery, said discharge being determined from said sensor data (Element 7)(Column 12, lines 53-58).

As to claim 22, which is dependent upon claim 21, Joko discloses wherein said energy transfer module includes a component for calculating battery parameters and a component for calculating a battery state of charge over time based upon said energy requirement and said charge return model(Figures 3a and 3b).

As to Claim 23, Joko in view of Adams discloses all the limitations of the claim 22, and further discloses an energy transfer module includes incrementally calculating a charge return to the battery based on Adams charge return model (Figures 3a and 3b).

As to claim 40, Joko discloses a computer program product having a computer-readable medium tangibly embodying computer executable instructions for generating an energy transfer profile for modeling energy transfer for an application environment having a battery, said computer executable instructions comprising: computer executable instructions for receiving recorded sensor data for the application environment regarding energy consumption over time (figure 13, elements 6, 10 and 32); computer executable instructions for receiving application environment parameters through a user interface, including one or more charge parameters (Column 13, lines 9-10) (Element 6 and 30); computer executable instructions for generating the energy transfer profile for the application environment based upon said sensor data and said

application environment parameters (Column 14, lines 5-14)(The program control circuit contains computer executable instruction), wherein said step of generating the energy transfer profile includes determining an energy requirement for the application environment and applying a charge retum model based upon said charge parameters for the energy transfer profile (Column 19 lines 66-67 and Column 20 , lines 1-11); and computer executable instructions for outputting the energy transfer profile (Figure 13 element 26). Joko does not expressly disclose wherein said charge parameters include a charge schedule or are enter through a user interface. Pavolvic teaches a charging process configured by parameters entered through a user interface (Column 4, lines 60-62). Adams teaches a charge schedule for charging a battery (Column 2, lines 49-66). It would have been obvious to a person having ordinary skill in the art at the time of this invention to combine Pavolic's user entered charging parameters with Adams's battery charging system with a charge schedule and Joko's battery control system in order to be able to allow the user to enter parameters so as to maximize the charge provided to the battery for a given period of time (Adams, Column 1, lines 44-53).

As to claim 41, which is dependent upon claim 40, Joko discloses wherein said computer executable instructions for determining an energy requirement for the application environment includes computer executable instructions for obtaining a measured discharge value for the battery from said sensor data (Column 14, lines 5-13).

As to claim 42, which is dependent upon claim 14, Joko discloses wherein said computer executable instructions for generating the energy transfer profile include computer executable instructions for calculating battery parameters and computer executable instructions for calculating a battery state of charge over time based upon said energy requirement and said charge return model (Figures 3a and 3b) (These measurements are interpreted and calculated by the program control circuit. The program control circuit contains computer executable instructions).

As to claim 43, which is dependent upon claim 42, Joko discloses a computer program which calculates battery state of charge over time, and calculates charge return to the battery (Figure 3a and 3b). Joko does not expressly disclose wherein said charge parameters include a charge schedule. Adams teaches a charge schedule for charging a battery (Column 2, lines 49-66). It would have been obvious to a person having ordinary skill in the art at the time of this invention to combine Adams's battery charging system with a charge schedule and Joko's battery control system in order to be able to maximize the charge provided to the battery for a given period of time (Adams, Column 1, lines 44-53).

As to claim 44, which is dependent upon claim 43, Joko further discloses wherein said computer executable instructions for determining the energy transfer profile includes computer executable instructions for calculating a battery state of charge over time

(Column 14, lines 31-34) (Column 20, lines 1-11), and wherein said computer executable instructions for outputting said energy transfer profile includes computer executable instructions for producing a graphical representation of said battery state of charge over time (figure 3b).

2. Claims 6-9 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Notten et al. (US 6,016,047).

As to claim 6, which is dependent upon claim 4, Joko does not expressly disclose wherein said battery parameters include a battery internal resistance and a battery temperature. Notten teaches using the battery's internal resistance and a battery temperature to model the battery (Column 23, line 61, and Column 24, lines 10-11). It would have been obvious to a person having ordinary skill in the art at the time of this invention to combine the teachings of Notten's temperature modeling with Joko's battery control system, in order to provide an accurate model of the battery's state of charge and degradation.

As to claim 7, which is dependent upon claim 6, Notten further discloses wherein said step of calculating battery parameters includes determining a change in said battery temperature based upon a difference between heat generated and heat dissipated (Column 23, lines 35-38).

As to claim 8, which is dependent upon claim 7, Notten further discloses wherein said heat generated is calculated as a product of said battery internal resistance and a battery current product (Column 23, lines 58-61).

As to claim 9, which is dependent upon claim 8, Notten further including the step of determining said heat dissipated based on a calculation of surface-to-air convection from an external surface of the battery (Column 23, lines 28-44).

As to claim 34, which is dependent upon claim 32, Joko does not expressly disclose wherein said means for calculating battery parameters includes means for determining a change in said battery temperature based upon a difference between heat generated and heat dissipated. Notten discloses calculating the battery temperature by determining the difference between the heat generated and the heat dissipated (Column 23, lines 35-38). It would have been obvious to a person having ordinary skill in the art at the time of this invention to combine the teachings of Notten's temperature calculation with Joko's battery control system in order to provide high accuracy of the battery's temperature and it's interaction with the surrounding environment.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Notten as applied to claim 9 above, and further in view of L. Matrin (Journal of heat transfer, Nov. 1991, Vo. 113/899).

As to claim 10, which is dependent upon claim 9, Joko in view of Notten discloses all the limitation of claim 9, but do not expressly disclose calculating parallel-plate convection with in an air-gapped battery. L. Martin discloses calculating heat transfer through parallel-plates (Page 1, paragraph 1). It would have been obvious to a person having ordinary skill in the art at the time of this invention to incorporate the teachings of Martin with the device of Joko in view of Notten, in order to provided better calculations and modeling for heat transfer between an air-gapped battery and its environment.

4. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Hughes et al. (US 6,326,765) .

As to claim 11, which is dependent upon claim 4, Joko discloses all the limitations of claim 4. Joko does not expressly disclose wherein said charge return model is selected from a group including IVI, modified IVI, and controlled-feedback rapid charging. Hughes discloses using an IVI profile (Column 5, lines 3-8). It would have been obvious to a person having ordinary skill in the art at the time of this invention to use Hughes's charging method with Joko's device in order to provide a full charge to the battery in less time then typical charging methods.

5. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Aker et al. (US 6,803,746).

As to claim 11, which is dependent upon claim 4, Joko discloses all the limitations of claim 4. Joko does not expressly disclose wherein said charge return

model is selected from a group including IVI, modified IVI, and controlled-feedback rapid charging. Akers discloses using an IVI profile (Column 27, lines 15-23). It would have been obvious to a person having ordinary skill in the art at the time of this invention to use Akers's charging method with Joko's control system in order to charge the battery to a high state of charge with very little heating.

6. Claims 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Pavlovic as applied to claim 23 above, and further in view of Hughes.

As to claim 24, which is dependent upon claim 23, Joko discloses all the limitations of claim 4. Joko does not expressly disclose wherein said charge return model is selected from a group including IVI, modified IVI, and controlled-feedback rapid charging. Hughes discloses using an IVI profile (Column 5, lines 3-8). It would have been obvious to a person having ordinary skill in the art at the time of this invention to use Hughes's charging method with Joko's device in order to provide a full charge to the battery in less time then typical charging methods.

As to claim 25, which is dependent upon claim 24, Joko further including a data recorder unit (Figure 13, element 30) having inputs for inputting said sensor data (elements 6 and 10) from the battery while operating in the application.

As to claim 26,which is dependent upon claim 25, Joko further discloses wherein said sensor data includes discharge measurements taken over an interval of time (Column 22, lines 42-47).

As to claim 27, which is dependent upon claim 26, Joko further including an output device coupled to said energy transfer module for outputting a graphical representation of said energy transfer profile (figure 13, element 26).

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Pavlovic in view of Hughes as applied to claim 27 above, and further in view of Koenck (US 5,463,305).

As to claim 28, Joko in view of adams in view of Hughes discloses all the limitations of claim 27, and further discloses wherein the graphical representation of said energy transfer profile includes a battery state of charge over time (figures 3a and 3b). Neither Joko, Adams nor Hughes disclose a graphical representation of battery temperature over time. Koenck discloses a graphical representation of battery temperature over time (Figures 35 and 36). It would have been obvious to a person having ordinary skill in the art at the time of this invention to combine the teachings of Joko, Adams, Hughes and Koenck, and graphically display the battery state of charge over time and the battery temperature over time, so that correlations between the state of charge and temperature of the battery can be compared a equal points in time, and thereby a better understanding of the battery behavior can be obtained.

8. Claims 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Pavlovic as applied to claim 23 above, and further in view of Ankers.

As to claim 24, which is dependent upon claim 23, Joko discloses all the limitations of claim 4. Joko does not expressly disclose wherein said charge return model is selected from a group including IVI, modified IVI, and controlled-feedback rapid charging. Akers discloses using an IVI profile (Column 27, lines 15-23). It would have been obvious to a person having ordinary skill in the art at the time of this invention to use Akers's charging method with Joko's control system in order to charge the battery to a high state of charge with very little heating.

As to claim 25, which is dependent upon claim 24, Joko further including a data recorder unit (Figure 13, element 30) having inputs for inputting said sensor data (elements 6 and 10) from the battery while operating in the application.

As to claim 26,which is dependent upon claim 25, Joko further discloses wherein said sensor data includes discharge measurements taken over an interval of time (Column 22, lines 42-47).

As to claim 27, which is dependent upon claim 26, Joko further including an output device coupled to said energy transfer module for outputting a graphical representation of said energy transfer profile (figure 13, element 26).

9. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joko, Adams, and Ankers as applied to claim 27 above, and further in view of Koenck.

As to claim 28, Joko in view of Adams in view of Ankers discloses all the limitations of claim 27, and further discloses wherein the graphical representation of said energy transfer profile includes a battery state of charge over time (figures 3a and 3b). Neither Joko, Adams, nor Ankers disclose a graphical representation of battery temperature over time. Koenck discloses a graphical representation of battery temperature over time (Figures 35 and 36). It would have been obvious to a person having ordinary skill in the art at the time of this invention to combine the teachings of Joko, Adams, Ankers, and Koenck, and graphically display the battery state of charge over time and the battery temperature over time, so that correlations between the state of charge and temperature of the battery can be compared a equal points in time, and thereby a better understanding of the battery behavior can be obtained.

10. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Notten as applied to claim 34 above, and further in view of Hughes.

As to claim 35, which is dependent upon claim 34, Joko discloses all the limitations of claim 4. Joko does not expressly disclose wherein said charge return model is selected from a group including IVI, modified IVI, and controlled-feedback rapid charging. Hughes discloses using an IVI profile (Column 5, lines 3-8). It would have been obvious to a person having ordinary skill in the art at the time of this invention to use Hughes's charging method with Joko's device in order to provide a full charge to the battery in less time then typical charging methods.

11. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Notten as applied to claim 34 above, and further in view of Ankers.

As to claim 35, which is dependent upon claim 34, Joko discloses all the limitations of claim 4. Joko does not expressly disclose wherein said charge return model is selected from a group including IVI, modified IVI, and controlled-feedback rapid charging. Akers discloses using an IVI profile (Column 27, lines 15-23). It would have been obvious to a person having ordinary skill in the art at the time of this invention to use Akers's charging method with Joko's control system in order to charge the battery to a high state of charge with very little heating.

12. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joko in view of Adams in view of Pavlovic in further view of Koench.

As to claim 45, which is dependent upon claim 44, Joko in view of Adams disclose all the limitations of claim 44. Joko in view of Adams do not expressly discloses a graphical representation of a battery temperature over time. Koench discloses a graphical representation of battery temperature over time (Figures 35 and 36). It would have been obvious to a person having ordinary skill in the art at the time of this invention to add koench's battery temperature over time to Joko in view of Adams system, in order to provide a graphical representation of the battery's temperature changes over a period of time, and allow an easily viewable history of the battery's temperature fluctuations.

Response to Arguments

13. Applicant's arguments filed 7-3-06 have been fully considered but they are not persuasive.

14. Applicant's arguments with respect to claims 1, 16, 20, 29, and 40 have been considered but are moot in view of the new ground(s) of rejection.

As to the Arguments, regarding claims 1-4, 12-18, 20-22, 36-42, that Joko does not "determine one of more energy needs for the application environment", the examiner views the application environment as just any factor of the use, property, or situation to be used for the battery. Therefore Joko's control system for on-vehicle battery does determine one or more energy needs for the application environment. ***In re***

Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim.

As to the Arguments that Joko fails to teach "generating the energy transfer profile for the vehicle based upon said recorded sensor data and said parameters; determining an energy requirement for the vehicle and applying a charge return model based upon said charge parameters; and outputting the energy transfer profile." As the examiner originally pointed out, Figures 3a and 3b both show the transfer of energy, by both charging and discharging of the battery, which are both created by sensor data. The energy requirements for the vehicle are know through the state of the battery and the discharging current from the battery, and a charge return model is supplied with state of the battery and the time integral of the discharge current (Column 12, lines 53-67). And the energy transfer profile, is a direct reflection of the charge indicator of the battery (figure 15).

As for the Argument, with regards to claims 5, 11, 19, 23, 33 and 43-44, that the charging schedule of Adams cannot be combined with the regenerative braking of Joko due the fact that it is unscheduled and highly variable. As seen in Joko, Column 5, lines 63-67 and Column 6, lines 1-5, the time integral is known to know if the regenerative braking will possibly over charge the battery. And Adams teaches that the charge schedule is used to know for how long, and at what values the battery should be

charged at depending upon the state of charge, in order to charge the battery to the fullest extent (Column 1, lines 44-53).

As for the Arguments for claims 6-10, 24-28, 34-35 and 45, the examiner stands by the original rejection, and points to the above rejects for all the elements and the reasons to combine the references.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Grant whose telephone number is 571-272-2727. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KARL EASTHOM
SUPERVISORY PATENT EXAMINER